PREFLIGHT STEP 1: PLACE YOUR RING IN THE OFF POSITION

KNOWLEDGE

VOL 6 FEBRUARY 2012

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

CROSSING THE GAP

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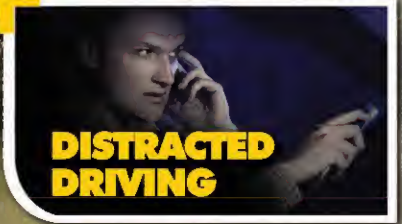

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- LASER SAFETY
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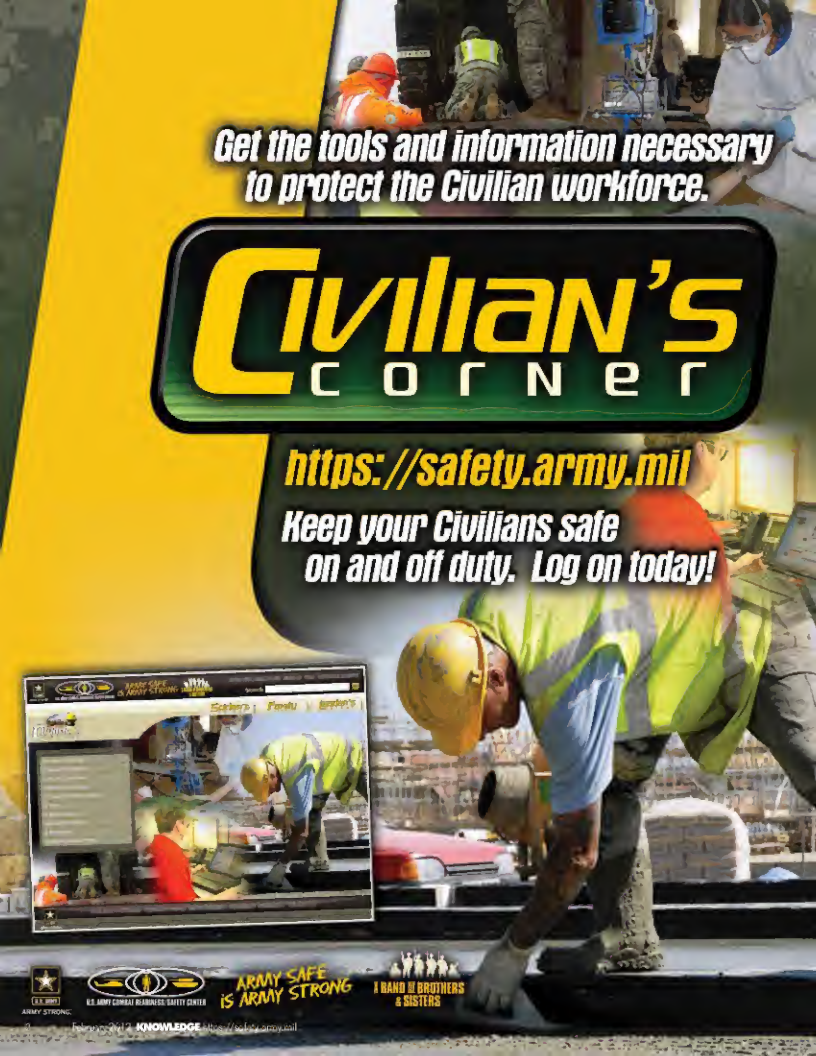
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LEADERS SOLDIERS CIVILIANS FAMILIES

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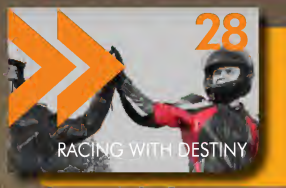

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Mission statement: The United States Army Combat Readiness/Safety Center (USACR/Safety Center) supports our Army by collecting, analyzing and communicating actionable information to assist Leaders, Soldiers, Families and Civilians in preserving/protecting our Army's combat resources.

We welcome your feedback. Please email comments to **safe.knowledge@conus.army.mil**.

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PLAYING THE

To the outside observer, safety may seem like a numbers game of statistics and comparisons. But those of us in Army safety know those numbers represent something very real: Soldiers who have died in accidents and will never return to their units or Families. We've been fortunate during the past several years that our numbers have been on a downward trajectory — smaller totals mean good news for the Soldiers, Family members and Civilians doing our Army's hard work every day. Engaged leadership has paid dividends for the safety and well being of our force, and Soldiers are getting better and better at taking care of each other both on the front line and at home.

Numbers don't lie, however, and there's no doubt fiscal 2012 got off to a rough start for safety. At the close of the first quarter, accidental fatalities were up 6 percent from the same timeframe a year before. To put that statistic in perspective, think about a squad of Soldiers, then imagine half of them gone in an instant. That's approximately how many more lives our Army lost from one year to the next in just a single quarter, and that's a number none of us should be willing to accept.

I firmly believe this setback is temporary, an anomaly we will correct quickly and decisively by doing what we know works — engaging with our Soldiers. From the squad up, Leaders should be talking to their Soldiers about everything that can take them out of the fight, starting with indiscipline behind the wheel of privately owned vehicles. As tragic as the first quarter's POV accidents are, they provide valuable lessons learned on issues like speed, seat belts and drunk driving. Like the rest of us, nearly every Soldier in our formations has acted recklessly on the road at one time or another, taking the same risks as their fallen peers but escaping serious harm.

Talking through recent accidents with your Soldiers offers them the opportunity to take a hard look at themselves and their mistakes, to see how close they have come to disaster

"Our ARMY has COME a LONG way in DOING things RIGHT and doing THINGS safely. It's due to our entire TEAM — Leaders, Soldiers, Families and Civilians — WORKING TOGETHER to save lives."
U.S. ARMY

GAME

and find ways to curb risky driving behaviors and ultimately save lives. Especially critical are junior Leaders — each of you must take an active interest in your Soldiers' off-duty activities and encourage an open-door policy regarding safety concerns. Engagement will become increasingly important in the coming weeks, as winter transitions to spring and Soldiers spend more and more time on the road in their POVs and on their motorcycles.

If you aren't already subscribed, the Army's Preliminary Loss Reports are a great engagement tool available to Leaders and safety personnel. Released after a fatal accident is reported to the U.S. Army Combat Readiness/Safety Center, each PLR contains facts, risk mitigation tips and suggested engagement techniques to enhance the dialogue between you and your Soldiers. You can begin receiving PLRs by email today by filling out a simple form available on the USACR/Safety Center website, https://safety.army.mil. Also be sure to check out the other tools available on the site, including the recently updated Individual and Battle Buddy Risk Assessments. These printable cards are designed to help Soldiers identify factors that could put them or their buddies at risk for an accident and include resources where Soldiers can seek assistance. The assessments are accessible via the "Leader's Corner" tab at the bottom of the USACR/Safety Center home page.

Our Army has come a long way in doing things right and doing things safely. It's due to our entire team — Leaders, Soldiers, Families and Civilians — working together to save lives. By staying focused and engaged, we can overcome our first quarter losses and make 2012 our safest year yet. In our business, there's no better number to be at than zero — and that's a goal we can all stand behind!

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WILLIAM T. WOLF
Brigadier General, USA
Director of Army Safety

READING THE

EARNIE EAKINS
Driving Directorate
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

Motorcycling is a lifelong learning process. Far too often riders think after a few years and a few thousand miles that they know it all. That concept can be fatal.

ROAD

Permanent change of station moves happen often enough to be somewhat of a setback to a rider's learning curve. At that point, they need to be aware that what they have learned isn't lost — but they may need to modify their skills for the road conditions at their new duty station. The focus of that learning process is adjusting to the different road surfaces and climatic conditions. Super high-powered motorcycles (sport bikes) are affected most and are the most common motorcycles among Soldiers.

Let's take a look at this situation pragmatically. Assume you are a rider in the southeast. The climate is warm and tires tend to adhere to surfaces much better than in other areas of the country. Because roads don't freeze during the winter, their surfaces are also in better condition. Riders often get accustomed to a certain riding style after a few years, not realizing that may have to change at a new duty location. When those moves occur, they must understand how to ride in their new geographic location, not just fall back on what they've always done. However, getting adjusted requires both time and discipline on the rider's behalf.

That discipline includes learning to read road surfaces, as they may be constantly changing. While some surfaces — such as crowned roads — remain relatively similar throughout the country, the degree of crown may vary at different locations. Motorcycles tend to drift away from the direction of the crown. This condition is the same with an automobile, but is much more pronounced with a motorcycle. Two-lane highways are crowned to the centerline, while four-lane highways are crowned to the median. Sport bikes are affected by road crowns more than standard motorcycles or cruisers, so changing motorcycles or riding a borrowed bike can be a recipe for disaster.

Today, because of repairs, there are patches on most road surfaces. Some have raised surfaces, while others may be concave. Each patch causes a differing reaction; no two are alike. When crossed at highway speed, riders must be aware how their motorcycle will react. Crossed at excessive speed, these patches can change the rider's direction of travel. That's not a problem if the rider is reading the surface and knows what to do. However, if the rider is daydreaming, or there are other factors such as cracks, tar snakes or weather, the result can be disasterous.

Painted lines, dribbled fuel or oil, railroad tracks, grates, covers, the color of the road surface (is the road blacktop or concrete?) and pavement grooves are other examples of potentially dangerous surfaces. Riders must read road conditions and react accordingly. Because of their sensitive handling, sport bikes react to changes in road surfaces faster than other types of motorcycles, which isn't necessarily a bad thing. Quickness is why most sport bike riders chose that type bike in the first place. This makes it important that all motorcyclists know their bikes' characteristics, react accordingly and stay focused while riding.

While riders may be fully capable of negotiating road conditions in the area where they are accustomed to riding, a PCS changes the dynamics of these surfaces. Changing to a different type motorcycle or a more powerful version all contribute to the way a rider needs to read and react to road surfaces. Staying aware of the changing road conditions and showing the discipline to adjust to them is fundamental to safe riding.

Lack of Communication

LARRY KENNEDY
U.S. Army Training and Doctrine Command Safety Office
Joint Base Langley-Eustis, Va.

While stationed in the southwest as an explosive ordnance disposal specialist, one of our unit's missions was to clear Air Force aerial bombing and gunnery ranges of unexploded and "practice" ordnance. Practice ordnance, while sounding innocuous, contains explosive charges to produce a white marking smoke and can, depending on the particular round, have explosive charges that are equivalent to 5 pounds or more of high explosives.

Our mission was to conduct a "five-year" clearance of an aerial bombing and gunnery range located north of the base. This would require additional temporary manning support. The clearance would last a month and involve a border-to-border clearance.

Many support issues needed resolution for the mission to be successful, not the least of which was how to conduct a clearance on a very busy range used by active duty, Army Reserve and National Guard forces. Previous attempts to clear this particular range had failed due to mission requirements, and the clearance was rescheduled several times. Therefore, sorely needed range maintenance had been allowed to slide. Sound familiar?

To address the maintenance issues, we coordinated with range maintenance personnel. We cleared critical target areas first, allowing personnel on the range to repair and build targets in these areas while we conducted clearance operations in other sections of the range. Due to terrain features (deep canyons, ravines, mountains) and the size of the range, this option was believed to offer the most safety for personnel and still allow necessary maintenance actions to be accomplished.

Good radio communications were a key element of this operation; personnel were required to be under cover when disposal detonations were executed. A range control section attached to White Sands Missile Range controlled access to the range we were clearing, which was about 60 miles from the base. WSMR conducted radar surveillance of the airspace and cleared aircraft onto and off the range.

At the beginning of the operation, we set up a base camp and emergency evacuation helipad on a bluff overlooking the airfield target complex. We set up an antenna, aligning and adjusting until we could get reliable communications with range control. Communication with range control was via handheld FM radios, truck-mounted radiotelephones and tactical radios. We also had manual signaling devices (signaling mirrors) and red and yellow smoke for emergencies.

As the airfield target complex was the highest priority for clearance and maintenance, we cleared this area first. By the second week of the clearance, we were able to allow range maintenance to conduct their operations, repairing and rebuilding this target complex. They were in constant communication with my unit and range control, and although we had to put them under cover several times, they were able to accomplish the mission a week ahead of schedule. As they were clearing off range, they told range control that range maintenance was completed. Range control marked this statement on their status board and cleared them off range.

At this time, my unit was in a ravine, pulling out 500-pound practice bombs, and out of communication range. Range control continued to attempt to contact us and at the end of our extended duty day, when we climbed out of the ravine and were on the way back to the base camp, we were asked to confirm that maintenance activities on the airfield were complete. We were tired and looking forward to the end of the day and the cold beverages that were waiting for us. Without clarifying what they were asking, we confirmed maintenance was complete. We then proceeded back to base camp and secured our equipment for the night.

The route we took to exit the range for our billets meandered through the airfield target complex.

DID YOU KNOW?

The Army Range Safety Program provides procedures to enhance safe, realistic live-fire training, enabling the Army to train as it fights; enhance combat readiness; protect personnel and property; avoid injuries; and prevent fratricide in combat. If you want to know more about this program, contact the program manager at 757-878-0484 or 757-878-0516. The link for the Sustainable Range Program website is available in the U.S. Army Combat Readiness/Safety Center's Range & Weapons Safety Toolbox at https://safety.army.mil/rangeweaponssafety.

As we were about halfway through, our vehicles were "buzzed" by a flight of four F-15s. We attempted to contact range control, but radio communication on the FM radio was intermittent, and the phone number that we were to use, when dialed on the radiotelephone, did not go through. The aircraft flew out of sight and we decided to exit the complex back to the base camp.

As we turned our vehicles around, we heard a detonation on the far side of the complex and saw an aircraft pulling out of its bombing run. We immediately popped red smoke and abandoned the vehicles, seeking cover. The second aircraft, which was on approach, saw either the red smoke (or one of his wing mates did) because he aborted his run and initiated an emergency climb. They reassembled formation and did a flyover of our position. We again popped red smoke and used our signaling mirrors. They departed the range and we evacuated back to our base camp. We were able to contact range control from that location and found out that when the shift changed, the oncoming technician had not been properly briefed. When we confirmed maintenance was complete, range control assumed all personnel had left the range and cleared the flight of F-15s onto the range.

Range safety depends on reliable communications and a complete understanding of terminology and procedures to operate on ranges. Because this was an aerial bombing and gunnery range, one might assume we would have a means to communicate with aircraft. We did not. It was not listed on our table of allowances as required, and we assumed procedures to communicate with range control were adequate. After that incident, it became standard procedure not to go on range clearance operations without a means of direct communication with overflying aircraft.

My unit and I were lucky; there were no injuries or deaths resulting from this incident. Several things bear emphasizing so this doesn't happen to you, including:

- Know your range procedures; get the required training from your range control officer.
- Conduct a hazard analysis of your operation; identify and mitigate all hazards.
- If you are unfamiliar with the types of operations that can be conducted on your range, ask questions.
- Communications, both for daily operations as well as in emergencies, must be reliable and tested every time you go on the range.
- Ensure your communications with range control are understood and that you both are operating with the same terminology.
- Do not conduct operations without the proper equipment or training.

In addition, when all else fails, make sure you have a "backup" plan in place.

"Range SAFETY depends on reliable COMMUNICATIONS and a complete UNDERSTANDING of terminology and PROCEDURES to operate on RANGES."

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ARMY STRONG. U.S. ARMY COMBAT READINESS/SAFETY CENTER ARMY SAFE IS ARMY STRONG BAND OF BROTHERS & SISTERS

The IMPORTAN CREW COORDI

It was a night almost like every other at Forward Operating Base Speicher. We were on the early morning shift, starting work at 3 a.m. We were told earlier in the day that we would be conducting a hasty air assault that night that would take about one hour to complete. After that, we would perform a follow-on recon and security mission. Flying Apaches, we departed about two hours earlier than our shift normally started and went to another FOB to get a quick final brief on the air assault, and then off we went.

CE of NATION

CHIEF WARRANT OFFICER 3 A.J. PORRETTA
A Company, 4th Battalion, 2nd Aviation Regiment
Camp Humphreys, Korea

The mission went off without a hitch. We completed the mission and flew directly to the forward arming and refueling point to get fuel before we continued our recon mission. We sat in the FARP for a short time talking about the mission and how well it had gone. After the refuel was complete, we went through the before-takeoff checklist and took off again.

My backseater and I followed Gun One out of the FARP and toward our first objective. We took the left side of the formation, five to seven rotor disks away and at the same altitude. I was flying with my night vision goggles, and the backseater had on his night vision system. About two minutes into the flight, we reached our first checkpoint and Gun One said, "Coming left." My backseater acknowledged by saying, "Roger."

I had been looking in the target acquisition designation sight at the checkpoint and the area around it and noticed we were not immediately turning. I looked up and to the right, where our lead aircraft was, and saw Gun One was now about one to two disks away and turning right into us. I shouted, "Oh, $#@!," and grabbed the controls and rapidly gained altitude while leveling the aircraft. I told the backseater what had happened. After we talked about how close it was, we continued the mission without further incident.

We learned several things from this near miss:

1. Crew coordination needs to exist not only in the aircraft, but also in the flight. Acknowledging the other aircraft verbally is telling the other aircraft you are fully aware of what they are going to do and that you are in a position to react to it. If you do not understand or you're not in that position, do not acknowledge. Standby is an acceptable response.
2. "Oh, $#@!" is not proper terminology. "Emergency, I have the controls," is. Did

> "Front-seat **PILOTS** need to have enough situational **AWARENESS** to get the **"BIG PICTURE,"** not just the **SMALL** world we live in while we are **STARING** at our little **SCREEN.**"

I have enough time to say all that before I took the controls? At the time, I did not think so. I was a new pilot with less than 700 hours, and the other pilot was a more experienced maintenance pilot with more than 1,000 hours. What do you think went through his head when a junior warrant officer, without any real explanation, rapidly took away the controls?

3. Front seaters need to have good situational awareness. They should not be "seat meat," just there to work the TADS and find targets. They need to pay attention to what is going on, not only on the ground, but also on having a good mental picture of what you and the other aircraft are doing. At the time, I was looking at a road and noticed the aircraft not turning. I had gotten the picture in my head of where Gun One was and where we were. The fact that we had not turned was a big red flag.

While approaching the checkpoint, I think everybody was looking to the left into the turn, front and backseaters of both aircraft. Takeoffs and landings are the most critical times in which both crewmembers need to be "outside" the aircraft. But, what about flying in close formation? Front-seat pilots need to have enough situational awareness to get the "big picture," not just the small world we live in while we are staring at our little screen.

Don't get me wrong, I am not saying if you are not Gun One that you need to always be "outside" while in formation. However, you need to have enough situational awareness to know when something does not sound or feel right and know what you can do to help or fix it. Maybe one day it will save you from an aviation accident. It may even save your life.«

FOOD FOR THOUGHT

Army aviation has long used aircrew coordination to improve an aircrew's interaction and efficiency in safely accomplishing their missions. This time-proven program, Aircrew Coordination Training-Enhanced, or ACT-E, reduces accidents and improves the effectiveness of crews in both peace and wartime. To help prevent accidents attributed to or involving crew coordination failures, aviation Leaders must continue to invest time in strategies that address improvements in crew coordination.

What can your unit do?

- **Ensure all aircrew members are trained and evaluated on the most current ACT-E programs available for your aircraft. For updates, call the U.S. Army Aviation Center of Excellence Directorate of Training and Doctrine at (334) 255-3947.**
- **Conduct crew and passenger briefings thoroughly using a Leader-approved checklist as part of a standing operating procedure. Brief the actions and responsibilities of all aircrew members beforehand so if an emergency does occur, there is a plan in place instead of trying to make it up as you go.**
- **Ensure team rehearsals are conducted before mission execution with emphasis on crew coordination, duties and responsibilities. Plan for the worst scenario, especially if the aircraft is hot and heavy or the weather is marginal.**
- **Emphasize to aircrews the importance of continuing to fly the aircraft, asking for assistance, offering assistance and continuing to communicate, especially when things start to go bad.**
- **Conduct after-action reviews or debriefs after the mission and discuss crew coordination successes and deficiencies and how to improve.**

LEADERS, SOLDIERS, CIVILIANS AND FAMILIES:

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PREFLIGHT STEP 1: PLACE RING IN THE OFF POSITION

One of the most difficult safety precautions to convince Soldiers to buy into is to remove jewelry before working around aircraft. Wedding bands, in particular, are not commonly removed because of the personal conviction that the symbolic jewelry should be worn at all times. Nearly all Soldiers have seen the photographic evidence of the dangers of wearing rings, but they accept the risk either to avoid violating their personal beliefs or possibly due to threats from their spouses.

CHIEF WARRANT OFFICER 3 SHAMUS M. KIRSCHBAUM
A Company, 2-158th Assault Helicopter Battalion
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I was one of those Soldiers who knew and understood the risks associated with wearing my wedding band at work, but I chose to wear it anyway. I told myself nothing would happen to me because I was aware of the catch hazard and I would operate with a heightened consciousness of the ring. I believed I would be able to reduce the risk by wearing my gloves during preflight operations and avoid jumping down from the aircraft. I was much more afraid of losing the ring or simply forgetting to put it back on after work and causing my wife to question why I wasn't wearing the very symbol of my fidelity and commitment to our marriage.

Of course, I would not be writing this article if I weren't personally involved in a ring accident. And let me tell you, it hurts! It happened to me while climbing out of the pilot side of a Black Hawk following a night vision goggle flight in Iraq. After a long night of NVG flying in a combat zone, this was not the way I was expecting to finish my day.

I had about 700 flight hours at the time and, as far

as I can remember, I had always climbed out of the aircraft the same way. Although there was nothing out of the ordinary about the way I dismounted the helicopter, this was the time my ring finger became acquainted with the tiny screw that protrudes about two threads out from the top of the armor side panel. Unfortunately, my loosely enforced personal rule of not jumping off the aircraft did not always apply to getting out of my seat after a flight. I typically pushed myself out from the step and hopped out of the aircraft. Since I am somewhat short and lowering one foot to the ground and leaving the other on the step is unnatural, the small jump down from the step had become routine. So, holding my left hand on the top of the armor panel, I pushed off and jumped to the ground just a foot or two below. My ring caught on the screw and by the time my feet hit the ground, I was

> "I **TOLD** myself **NOTHING** would **HAPPEN** to me **BECAUSE** I was **AWARE** of the catch **HAZARD** and I would **OPERATE** with a **HEIGHTENED** consciousness of the ring."

in a completely unexpected world of pain.

Initially, I tried to conceal my pain because I knew exactly how unsympathetic my crew would be. We had all seen the graphic photos and been warned about the risks of wearing wedding rings on the aircraft. Besides that, it is pretty tough to squeeze any sympathy for mistakes from aviators, in general. After a few moments of trying to be tough, though, it was a relief to scream a blue streak. Predictably, nobody felt sorry for me, but a crew chief was sure to take pictures to post at the troop medical clinic. Luckily, my ring came off my finger and my wounds were not serious, but I learned a valuable lesson through the pain of the accident and the shame of having to walk by the picture of my finger every time I visited the TMC.

One positive outcome of this accident is that I gained a solid argument to convince my wife that wearing my ring at work was too dangerous. So, now I share this story and the photo with you so that you can make that argument with your spouse before you have a similar accident.

Army Safety Net allows members to quickly exchange safety knowledge. This exchange of knowledge is accomplished through sharing ideas, experiences, lessons learned and best practices. This enables Leaders at all echelons to make better-informed risk management decisions.

https://forums.army.mil

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FLASH – SIZZLE – DARK SPOT

MIKE WOOD
Ground Directorate
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

The Army uses nonlethal weapons such as lasers on a daily basis to protect our forces. If used improperly, these types of weapons could cause temporary — or even permanent — eye damage.

Soldiers injured in laser incidents often report seeing a flash, while others hear a short sizzle and then see a dark spot. Symptoms include temporary blindness, blurred vision and headaches. Fortunately, these types of injuries are preventable if Soldiers receive the proper training and apply what they learn to laser operations.

Between fiscal 2009 and 2010, the U.S. Army Combat Readiness/Safety Center received 17 accident reports on eye injuries caused by lasers. It's easy to see how these accidents could happen, especially if Soldiers haven't been provided proper training. Many of these lasing incidents occurred as convoys or patrols approached traffic checkpoints and security towers controlling the gates at forward operating bases. We've even had an incident where two Soldiers were playing around with a laser that resulted in an eye injury to another Soldier.

As the Army continues to use lasers in the field, the potential for accidental lasing of Soldiers exists. However, it is possible

to reduce these incidents through education. Knowing the difference between the classes of lasers and how to handle each of them safely are key elements in reducing lasing accidents.

All laser systems must have a warning label that identifies the class of the laser. These labels may be found on a wide range of items such as personal CD and DVD players to Army equipment, including rangefinders and target designators used by Soldiers. The chart below provides the different classes of lasers and the hazards, if any, with each class.

To properly use lasers, prevent eye and skin injuries, and protect vision, rigorously apply the following controls:

- Know who your LSO or RSO for your unit is.
- Know the class of laser you are using and the Nominal Ocular Hazard Distance.

LASER CLASSIFICATION	MEANING
Class 1	• Emit at levels that are not hazardous under any viewing or maintenance condition. • Exempt from any control measures or other forms of surveillance.
Class 1M	• Emit at levels that are not hazardous under normal viewing conditions but could be hazardous for intrabeam viewing through magnifying optics. • Potentially hazardous if viewed with certain optical aids.
Class 2	• Emits in the visible portion of the spectrum (0.4 to 0.7 micrometers (µm). • Eye protection is normally afforded by the aversion response[a].
Class 2M	• Emits in the visible portion of the spectrum (0.4 to 0.7 micrometers). • Eye protection is normally afforded by the aversion response for unaided viewing[a]. • Potentially hazardous if viewed with certain optical aids.
Class 3R	• Potentially hazardous under some direct and specular reflection[b] viewing conditions, but the probability of actual injury is small. The laser will not pose either a fire hazard or diffuse-reflection[c] hazard.
Class 3B	• Is a hazard under direct and specular viewing conditions, but is normally not a diffuse reflection or fire hazard.
Class 4	• Is a hazard to the eye or skin from the direct beam. • May pose a diffuse reflection or fire hazard. • May also produce laser-generated air contaminants and hazardous plasma radiation.

Editor's note: The laser classification chart is an excerpt from ANSI Z136.1-2007, American National Standard for Safe Use of Lasers.

[a]The aversion response is closure of the eyelid, eye movement, papillary constriction or movement of the head to avoid exposure to a bright light stimulant.

[b]Specular reflection is a mirror-like reflection.

[c]Diffuse reflections change the spatial distribution of the beam of radiation when it is reflected in many directions by a surface or medium.

If laser systems have older laser classification nomenclature (i.e., II or 3a), consult your unit laser safety office or radiation safety officer, installation LSO or RSO or higher headquarters LSO/RSO. If additional information is needed on a system, contact the U.S. Army Institute of Public Health, Laser and Optical Radiation Program, at (410) 436-3932, DSN 584-3932, or email army.laser.safety@us.army.mil.

- Complete laser safety training, know how to properly use the laser and know restrictions on use.
- Handle the laser with the same respect and care as a loaded weapon.
- Know the rules of engagement:
  1. Never intentionally point a laser at anyone's face if they are closer than the NOHD.
  2. Never aim the laser at reflective surfaces within the NOHD.
- Keep lasers clean and dry and remove batteries after use.
- Properly secure lasers when not in use.
- Do not remove warning labels from the laser.
- Never leave an operable laser unattended.
- Check the security of mounting hardware.

Lasers systems are a part of a Soldier's life on the battlefield and in training. Proper education is essential to Soldiers understanding the hazards of misusing these tools.

FYI

Technical Bulletin Medical 524, Control of Hazards to Health from Laser Radiation, provides guidelines and establishes procedures for personnel protection from laser radiation. The bulletin encompasses the portion of the electromagnetic spectrum in which laser radiation can be produced, including ultraviolet, visible light and infrared radiation. Field Manual 8-50, Prevention and Medical Management of Laser Injuries, provides basic preventive, protective and diagnostic information on laser injuries. For additional information and resources regarding laser safety, visit the Army Public Health Command's Laser and Optical Radiation site at http://phc.amedd.army.mil.

LASER LESSON

Did you know laser dazzlers started out as a form of nonlethal checkpoint control and tactical area denial? The concept was if a vehicle was approaching a checkpoint or gate, lase it outside of the NOHD to produce an aversion response of the driver. If the driver stopped, no additional escalation of force was to be used. If the intent of the driver was to continue toward the checkpoint, additional escalation of force was to be used. Today, the Army uses the Green Laser Interdiction System as a nonlethal laser system. The effective range of this laser is from the NOHD out to 600 meters away. Designed to cause an aversion response, the green light is similar to a bright camera flash. They have been an indispensable tool for Soldiers and military bases.

ARE YOU READY?

Wouldn't you like to know if your unit is about to experience a mishap?

Wouldn't you like to prevent the loss of personnel and equipment?

Don't you want to protect your combat power?

ARAP

ARMY READINESS ASSESSMENT PROGRAM

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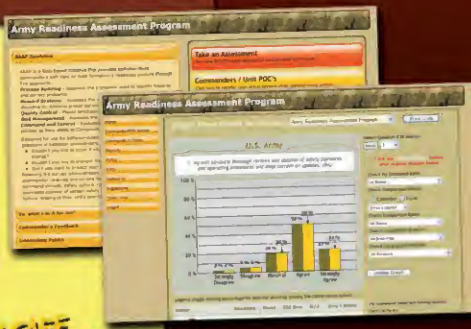

U.S. ARMY
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https://safety.army.mil

ARMY SAFE IS ARMY STRONG

It was my fault as much as it was his. I work with safety professionals. I hear the statistics every day. Yet there I was in my own little world, rushing to get home and not paying attention to the other drivers on the road. That's how I ended up forced into the median doing 60 mph in my Toyota Camry.

A NEARLY 'PERFECT' STORM

NAME WITHHELD BY REQUEST

You know how when you play back things in your head you remember details that escaped you before? I realized later the driver in the lane to my right had a cellphone to his ear. I hadn't noticed the phone when I eased into the passing lane to go around him because he wasn't weaving or doing any of those other things distracted drivers commonly do. And I was in a hurry. The truth is I was just as distracted as he was; I just didn't have a phone to my ear.

What took place then was nearly the proverbial "perfect storm." We were doing about 60 mph when a maroon-colored sedan pulled onto the highway ahead of the other driver, who I was passing. The maroon sedan was well ahead of us and had plenty of clearance. It wasn't like the driver to my right had to slam onto his brakes. To be precise, he didn't have to immediately slow down, although at 60 mph he eventually would have to. So, without looking, he steered the nose of his car into my lane. I wasn't in his blind spot. Had he bothered to look he'd have seen me there right beside him. However, he didn't look; very likely because he was distracted by his cellphone conversation.

By the same token, had I not been staring straight ahead, fixated on getting home, I'd have realized what the "phone guy" was likely to do when the maroon sedan pulled onto the highway. I, too, would have probably moved over, although I'd like to think I'd have the sense to make sure the lane was open first.

As he moved into my lane, I was forced to veer left toward the median. Fortunately, there was a generous swath of asphalt between the left lane and the median proper. That allowed me just enough room to avoid being hit without running onto the grass-covered part of the median. Had I, I would have probably ended up in the hospital — or morgue — instead of writing this story.

That day, I'd allowed myself to become complacent behind the wheel while sharing the road with other distracted drivers. Because I was driving on a familiar road and concentrating on getting home, I was thinking about what I was going to do instead of what I was doing. Like so many Soldiers I see in accident reports, I was

taking things for granted and failing to identify the hazards around me.

As suddenly as it began, the incident ended with the distracted driver pulling back into his lane and me into mine. I'm not even sure the driver in the maroon sedan was aware of what had taken place behind him. And while I can't speak for phone guy, I spent the next couple of miles tightly holding onto the steering wheel and trying to catch my breath again.

I grew up hearing the slogans "Drive Defensively" and "Watch Out for the Other Guy." As my mother would say, I "went away from my raising" that day and it almost cost me big time. Driving, by its very nature, is a multitasking activity, one that has drivers making an average of 200 decisions every mile. Take it from me; when you're behind the wheel, every one of those decisions is more important than anything else you have to do later. The truth is if you don't pay attention while you're on the road, there may not be a "later."

FATAL DISTRACTIONS

Distractions aren't merely annoying; they can be fatal behind the wheel. There are three main types of distraction that can quickly take you from your car to your coffin:

- **Visual — taking your eyes off the road**
- **Manual — taking your hands off the wheel**
- **Cognitive — taking your mind off what you're doing**

The dangers of texting and talking on cellphones dominate the news. However, reaching, eating, drinking, playing CDs, tuning the radio, keying information into a GPS and talking with passengers also account for a hefty number of distracted-driving accidents. Less obvious forms of distractions such as daydreaming or dealing with strong emotions can be just as deadly. Anything that diverts your attention while you're driving significantly raises your risks.

Just how big of an issue is this? According to the National Highway Transportation and Safety Administration, distracted driving contributed to more than 22 percent of all crashes and near-crashes recorded during their 100-Car Naturalistic Driving Study. In a typical year, that would equate to more than 5,000 people killed and 1.5 million injured.

So where do you want to end up at the end of your trip — at your destination or in a statistics column? It's your choice. You can either pay attention now or pay the consequences later.

CROSSING the Gap

CHIEF WARRANT OFFICER 4 MARC ASSUMPCAO
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Vehicle water crossings are an inevitable yet necessary task for Leaders, Soldiers and personnel to accomplish their mission. Because of the inherent danger in water crossings, it is imperative units conduct proper terrain analysis, personnel training in fording operations, equipment preparation and apply composite risk management during the planning process and well before the execution phase.

There are many important factors to consider before conducting water-crossing operations. I would like to highlight a few best practices and lessons learned in an effort to shed light on how to mitigate risks associated with water crossings. Soldiers and Leaders may not realize the buoyant force on an object is equal to the weight of the fluid displaced by that object. A cubic foot of water weighs about 62.4 pounds. Vehicles displace a lot of water when they enter a river or creek bed, and the pressure exerted by moving water increases with the square of its velocity. The depth and width of the area to be crossed, the bank conditions and the river's current velocity are major factors to consider before attempting a water crossing. These factors will determine if equipment and personnel can cross by fording or swimming, if use of expedient materials is practical or if specific bridging assets are required.

Some common risks of trying to cross water include vehicles stalling or becoming stuck. Most times, when a vehicle stalls, personnel try to get out of the vehicle. Once outside, they are exposed to swift currents that may result in them falling into the water and being swept away or jammed into debris downstream.

Drivers and their vehicle commanders also must be aware of environmental conditions and other issues associated with water crossings. Water clarity and lighting circumstances could conceal the condition of the roadway beneath them. Floodwaters can also hide a damaged roadway. Generally, flash floods do not last more than an hour, so Soldiers should keep this in mind: Do not trade a lifetime for an hour. Act safely, remember your training and do not cut corners.

DID YOU KNOW?

Field Manual 3-90.12, Combined Arms Gap-Crossing Operations, focuses on the elements necessary for the forces to cross an obstacle, wet or dry. To view this publication and others related to equipment safety operations, check out our Driver's Training Toolbox at https://safety.army.mil/drivertrainingtoolbox/. Having a strong, solid foundation on aspects necessary for water crossings enables the personnel and equipment to be safely postured.

> Generally, **FLASH FLOODS** do **NOT LAST** more than an **HOUR,** so **SOLDIERS** should **KEEP** this **IN MIND**: Do **NOT TRADE** a **LIFETIME** for an **HOUR.**

Other factors to consider before conducting water-crossing operations include:

- Follow all vehicle fording and swimming instructions in accordance with the vehicle's technical manual.
- During training exercises, ensure drivers and crewmembers wear personal flotation devices if the water is more than 4 feet deep.

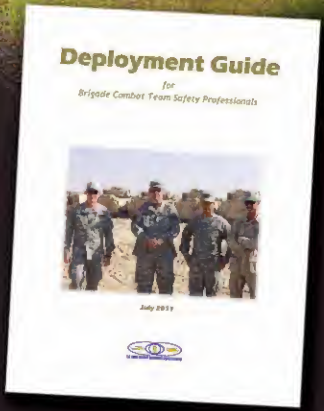
Factors to consider during water-crossing operations include:

- Ensure the water depth at the fording site is below the vehicle's fording limits and the site is clear of submerged obstacles.
- Do not exceed 4 mph when entering and traveling through the water.
- Consider not wearing load-bearing equipment during fording operations. The equipment could snag on vehicle components and prevent crewmembers from escaping through the top hatches during emergencies.
- Consider leaving combat locks unlocked during fording and when operating near bodies of water.
- Store sensitive items and small arms inside the vehicle. If the vehicle sinks, these items can be easily retrieved during recovery opeations.
- Attach dismounted troops to a safety line when crossing.
- Do not cross more than one vehicle at a time, and do not cross a vehicle beside dismounted troops.
- Ensure the fording site has adequate entrance and exit points and a firm bottom.

Analyzing wet gaps and using the necessary resources available should allow crossings of gaps to occur safely and minimize unnecessary risks.

You don't have to reinvent the wheel.

When preparing to go downrange, check out the Deployment Guide for Brigade Combat Team Safety Professionals for valuable lessons learned, resources, tools and other useful information. While developed for BCT safety professionals, anybody can use this deployment guide. Visit https://safety.army.mil/deploymentguide to download or order a DVD copy of the guide.



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RACING WITH

It's hard to resist rolling the throttle when you're straddling a motorcycle that can go from zero to 100 mph in less than six seconds. But that's what Staff Sgt. William Whiteside's potent 2005 Yamaha YZF-R1 sport bike could do. In 2007, the prior-service Sailor had been racing on a MotoGP track in Jerez, Spain, close to his assignment in Rota. Now back stateside, he was exiting Highway 167 North in Renton, Wash., onto the onramp to Interstate 405 North when he encountered some easy curves and a decent straightaway. With 165 horsepower at his fingertips and an agile bike, the onramp didn't have to be boring. At least that's what he thought as he entered the first curve.

BOB VAN ELSBERG
Strategic Communication Directorate
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

DESTINY

"I was leading the pack because I was the most experienced one out of everybody," Whiteside said. "I was wearing all of my protective equipment — all my basic stuff that I wore on the track when I raced."

Behind him were a dozen riders who'd met that morning at a motorcycle shop in Renton. It was a chilly 45 degrees as they headed out. They'd been on the road less than five minutes when they hit the interchange from Highway 167 to I-405 North. Their tires, relatively cold and hard as they started the ride, hadn't yet warmed enough to reach their optimal "stickiness," or traction, with the road. That would take a bit more time — time Whiteside didn't have as he pushed the Yamaha's performance.

Going between 65 and 75 mph as he exited Highway 167 onto the onramp, he flashed past a 45-mph speed limit sign, followed shortly thereafter by a sign recommending drivers slow to 35 mph for curves. But such recommendations, Whiteside considered, didn't reflect the agility of his R1. Leaning left coming out of a switchback, his rear tire suddenly broke loose, sending his bike into a counterclockwise spin. He fell back on his training and racing experience.

"If you lose traction with the rear tire, you're supposed to maintain and (if needed) increase throttle to help pull you out of the corner," he said. Braking or slowing down, he explained, would cause the motorcycle to stand up and go straight, running off the road.

But he couldn't regain control.

"My rear tire began coming around," he said. The bike quickly spun until it was nearly 90 degrees to the road. The rear tire, rapidly heating as it slid and spun against the road, suddenly gained full traction. What happened next, Whiteside will never forget.

"It shot me over the top, and that was the end of it," he said.

The motorcycle had "high-sided," flipping to the right and violently throwing him onto the road ahead.

"After I went over the top of the handlebars, I flipped and landed on the back of my head," he said. "When that happened, it basically compressed my spine to the point it caused a compression fracture to my L1 vertebrae. However, thanks to my safety gear, that was all that happened."

Despite his injury, Whiteside was conscious. Pumped with adrenaline, he got up and ran off the road, collapsing into a ditch. Fortunately, one of his fellow riders was a Navy corpsman. He stopped and immediately assessed his injuries while Whiteside complained of pain in his left foot and back. The corpsman and the other riders stabilized Whiteside as they awaited the ambulance.

"I was able to maintain consciousness, but I don't remember a whole lot of what happened after that," Whiteside said.

An ambulance picked up Whiteside to take him to Madigan Army Medical Center, located about 35 miles away. However, en route he lost consciousness and was transferred to another ambulance that took him to Harbor View Medical Center in Seattle. En route, he lost consciousness again. When he regained consciousness, it was several hours later.

"I woke up that night in the hospital with a brace and X-rays from all over my back showing I had broken it," he said.

Doctors monitored him for three days to ensure his fractured disc didn't shatter. They then put him in an extensive brace with bars running down his rib cage and across his chest and stomach. He wore the brace for three months to stabilize his back while his damaged vertebrae healed. He discovered his tightly fitting racing leathers had performed an important function.

"The doctors stated that if I hadn't been wearing my leather suit, I'd have probably been in a wheelchair, paralyzed from the waist down," Whiteside said. The leathers, he

explained, kept pressure on the damaged vertebrae, protecting it. He added had he just been wearing a loose-fitting jacket, the disk would likely have shattered or blown out, damaging his spinal cord.

Whiteside's personal protective equipment protected him in many other ways.

"My gloves were completely shredded, but there was not a single scratch on my hands," he said. "My glove's Kevlar knuckle protectors prevented my hands from being shattered."

The impact tore a chunk out of the back of his helmet, an expensive Arai model. However, a damaged helmet beat the alternative. He said his insurance company gladly paid the nearly $5,000 to replace his riding gear, noting it was cheaper than paying for a coffin.

Surviving the accident provided him some valuable lessons learned. Although his bike could've easily handled the curves on a well-groomed racing track, riding on the street was a different matter. He lost control on a grooved road surface designed to promote rain runoff — a situation he never faced on a racetrack. Also, before racing, riders use electric heaters to warm their tires for maximum traction. Without those, it could've taken 10 to 15 minutes of riding before his tires would enjoy the same level of grip on the roads. And he didn't have that long.

Whiteside learned the street was not the place for riders to explore the performance of modern sport bikes. There are too many variables, any of which could suddenly send a rider out of control. And smart riders know that riding gear is no place to skimp or save money. When things go wrong, quality riding gear may be more important than a rider can imagine.

"It doesn't matter if it's five feet from your house or a 100-mile trip; you always need your gear because you can't predict what will happen," Whiteside said.

It's also important for the rider to stay ahead of the machine.

"I tell riders to always drive a mile ahead of themselves," he said. "Expect others to pull out in front of you, expect there to be something as you go through every corner. Expect the worst because, when you don't, that's when 'it' is going to happen."

Whiteside learned from his experience and is committed to helping protect fellow Army riders safely enjoy the sport of motorcycling. Check out the story, "To Make a Difference" on page 32 to see how he and other dedicated Leaders are working to protect riders. Also, if you've just arrived at a new duty station and are unfamiliar with the roads, see the related story "Reading the Road" on page 14 for safe riding tips.

WHAT'S BETWEEN YOU AND THE ROAD?

Staff Sgt. William Whiteside knows how important good personal protective equipment is to a rider. After all, he got the chance to wear out $5,000 worth of it in just one accident. That said, he's still alive, can walk and count to 10 on his fingers.

If you're going to ride, it's wise to put something durable between your head, your hide and the highway. The Motorcycle Safety Foundation has the following suggestions about good riding gear.

- **Helmets – Make sure they meet DOT standards and consider a full-face model to protect your nose, cheek and chin should you hit the highway face-first. Novelty helmets shatter like cheap plastic cups, splattering their contents on highways, jersey barriers, guardrails and other objects that don't give.**
- **Footwear – Boots with oil-resistant, rubber-based composite soles will give you a strong grip on the pavement and help keep your feet on the pegs. They can also protect against foot and ankle injuries.**
- **Jackets, Pants and Riding Suits – Gear purposefully designed to protect riders will better resist wearing through when sliding down the road and will also be cut to match the motorcyclist's riding position without binding.**
- **Gloves – Full-fingered gloves protect hands from blisters, wind, sun and cold and help prevent cuts, bruises and abrasions in a crash. This is especially important as the skin on the fingers is comparatively thin.**

RIDE FOR YOUR LIFE

The Motorcycle Mentorship Program establishes voluntary installation-level motorcycle associations where less experienced riders and seasoned riders can create a supportive environment of responsible motorcycle riding and enjoyment. This can create positive conduct and behavior and serve as a force multiplier that supports a commander's motorcycle accident prevention program.

MMP
MOTORCYCLE MENTORSHIP PROGRAM

Check out the USACR/Safety Center MMP website for some examples of active mentoring programs.

https://safety.army.mil/mmp/

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TO MAKE A DIFFERENCE

BOB VAN ELSBERG
Strategic Communication Directorate
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

Although Staff Sgt. William Whiteside survived his potentially disabling motorcycle accident (see the story, "Racing with Destiny" on page 28) another Soldier in the 201st Battlefield Surveillance Brigade wasn't as fortunate. The death of a sergeant in the 3rd Squadron, 38th Cavalry Regiment (see news story from The Seattle Times below), in April 2011 got the attention of 201st BSB commander Col. Paul Norwood.

A motorcyclist killed in a crash Saturday afternoon in Puyallup has been identified as Tyler J. Huber, 24. The Washington State Patrol said Huber was speeding at more than 100 mph when he was thrown from his motorcycle after it hit a car on Highway 167. The impact left the front fork assembly of the motorcycle embedded in the front of the car.

— The Seattle Times, April 11, 2011

Norwood's concern translated down to Whiteside's battalion commander, Lt. Col. Douglas Woodall — himself an avid rider. Whiteside, already invested in developing his battalion's own Motorcycle Mentorship Program, suddenly found his efforts a front-burner priority. In Woodall, Whiteside found a like-minded Leader, one concerned about protecting the unit's riders. With getting the MMP up and running a primary concern, Woodall conceived an idea sure to attract riders — an on-duty group ride. The ride, christened "Gryphon Glide," would engage not only the battalion's riders, but also those brigade-wide. The 50-mile ride to Washington's Pacific coast would reap safety benefits before the first engine rumbled to life.

"We brought everybody in a week prior and inspected their motorcycles and made sure each rider had all their personal protective equipment," Whiteside said. In addition, he explained they also made sure each rider had proof of registration and insurance and had their Motorcycle Safety Foundation training card. Beyond that, Whiteside, joined by Staff Sgt. Tyrone Greggs, personally inspected the riders' motorcycles, making sure each bike's chain, brakes and tires were in good condition. At the same time, Whiteside and Greggs took the opportunity to talk to the riders, learning what kind of bike they rode and their riding style. Armed with a much clearer picture of his organization's riders, Whiteside began working with Woodall and the battalion command sergeant major.

"We came up with a program placing the same emphasis on motorcycle safety that we put on other vehicles," Whiteside said. Now riders, not just motorists, will have their machines inspected before holidays. The message was clear — rider safety mattered.

That message was reinforced when another Soldier at Joint Base Lewis-McChord died on his motorcycle in June. Looking at the 16 nonfatal riding accidents Soldiers there had suffered since the previous July, speed and alcohol were recurring themes. Reviewing the accident reports clearly showed rider indiscipline as the primary cause. Soldiers either refused the required rider training or ignored the lessons they'd been taught. Clearly,

PRELIMINARY LOSS REPORT

A Soldier was killed in a single-vehicle motorcycle crash. According to local investigators, the Soldier was attempting to make an illegal lane change while negotiating a turn at an interstate exit when he lost control and crashed into the guardrail. He was pronounced dead at the scene. He was wearing a helmet and his required personal protective equipment. The motorcycle was not registered on the installation and the chain of command was not aware he had one.

the decision to ride safely must stem from riders' own motivations. The Gryphon Glide ride would mark the first step in a campaign dedicated to changing riders' motivations, decisions and actions on the road.

The ride took the riders from Lacey, Wash., on U.S. Highway 101 to Ocean Shores, Wash. After a buffet lunch in the parking lot of a Ramada Inn, the brigade conducted a safety stand down. As they did, they heard from Washington State Patrol Officer Lt. Michael Turcotte. Having spent more than 20 years working to reduce rider fatalities and injuries, he discussed common riding problems and explained the state's motorcycling laws. Following that, Whiteside told the brigade's riders how his PPE saved his life when he crashed in November 2008. Showing his own damaged riding gear, he emphasized why quality, not a low price, must be the criterion when selecting protective equipment.

The ride, which proved popular among riders, promoted an emphasis within the brigade's units to dedicate time and effort to protecting their riders.

"Our mentorship program identified one person per company on assignment orders as a mentorship NCO," Whiteside said. He explained that in that role they would conduct monthly motorcycle safety inspections and ensure riders possessed the required protective gear and had received MSF training. Beyond that, they would help Soldiers new to riding select a motorcycle matching their skills and riding interests. Equipped for success, new riders could enjoy their time motorcycling on the road, not recovering in the hospital.

And there was a side benefit, one greatly welcomed by riders. The increased emphasis on rider safety within the units showed vehicle drivers they also had a role to play.

"It raised their awareness of motorcycle safety," Whiteside said. He explained drivers were encouraged to pay attention to riders on the road, avoiding thoughtless actions that could endanger them.

The MMP also addressed another concern — "ghost riders." These Soldiers intentionally hide their riding from their commanders, in some cases only riding off post. Often not trained and frequently "mentored" by riders who deliberately choose to push the limits, ghost riders often fall prey to accidents. Above is a redacted Preliminary Loss Report on a recent fatal crash of a ghost rider.

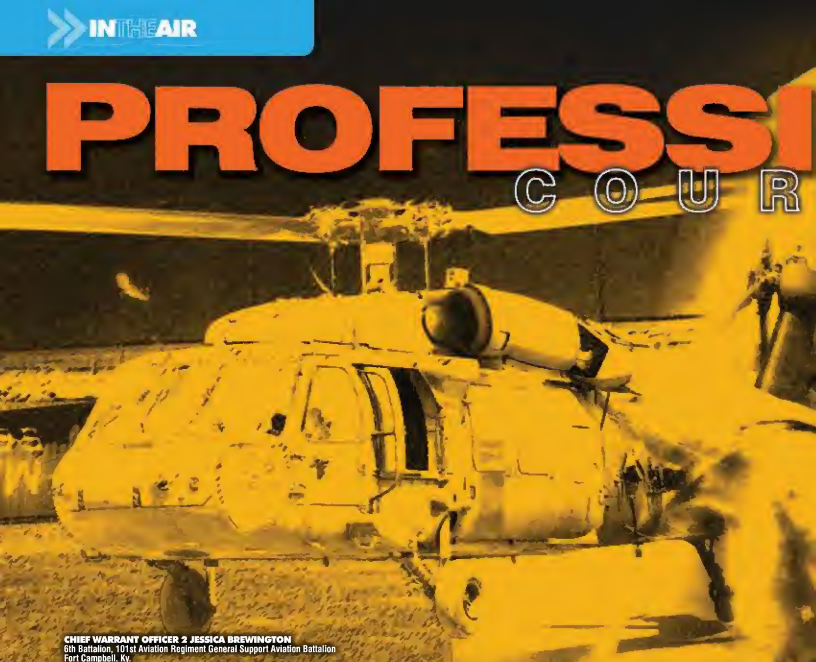
To deal with the problem of ghost riders, Woodall laid down a standard for his riders to observe.

"If you get into an accident or get a ticket or have any type of motorcycle-related incident, or if you've not had your bike inspected or been to a motorcycle safety foundation course, then disciplinary actions may be taken," he said.

Whiteside explained, "It's kind of like drugs — there's zero tolerance for it. I think effective leadership, taking things to that degree, has pulled those in we didn't know had a bike."

From his own accident in 2008 to becoming responsible for developing an MMP, Whiteside has helped connect the problem to the solution. The fact is Soldiers don't have to die in needless riding accidents. When Leaders work closely with their NCOs to reach their unit's riders, it's possible to make a difference — a difference that can save lives.«

PROFESSI
COUR



CHIEF WARRANT OFFICER 2 JESSICA BREWINGTON
6th Battalion, 101st Aviation Regiment General Support Aviation Battalion
Fort Campbell, Ky.

Professional courtesy can be defined as the courtesy given to senior ranking officers or more experienced Soldiers. Unfortunately, it can also become a hazard to a flight crew when inexperienced Soldiers are reluctant to announce hazards or lack the willingness to speak up and do what they know is right.

Being the junior pilot, I never wanted to displease or upset any of the seasoned pilots in my unit. Fresh out of flight school and naïve when compared to the other pilots, I assumed they were all "squared away" and I should never question them on their aviation/cockpit decisions. I assumed the pilot in command next to me knew it all and that I could always depend on him or her in those sticky situations. Being a newbie, I looked up to my PCs like Homer Simpson gawks at a glazed donut. I thought to myself, "Wow! Will I ever be as great a pilot as they are?"

I always felt this way until one bad flight. You know, "the flight" — the one that makes you clearly see out of your aviation Coke-bottle glasses forever. My unconditional trust toward others was out the window, along with the preconceived notion that every pilot around me knew what they were doing.

The day started out like any

ONAL TESY

WHEN DO YOU KEEP IT AND WHEN DO YOU THROW IT OUT THE WINDOW?

other in Iraq. Our crew was pretty much a company internal crew, except for the PC of my aircraft (whom we will call Capt. X to protect his identity). Capt. X was supplementing our company because our mission load was too heavy for the small number of PCs we had. Having supplemental PCs was standard, so I thought nothing of it.

The mission was to take us from Balad to a small forward operating base in northern Iraq with a refuel stop in Kirkuk. Sounds simple enough, right?

The crews took a little extra time in preparing for the mission, considering flying north of Balad was not our usual area of operations. I had been to Kirkuk once prior to this mission, so I was somewhat familiar with the airfield operations; however, I still wanted to check out the landing directions and forward arming and refueling point procedures into Kirkuk for good measure. Again, this was no big deal.

The morning briefings and preflight went well. It seemed as if this was going to be a great day. Our passengers were on the aircraft and we were ready to go. The usual "I-have-never-flown-with-you" conversation occurred on the first leg of the flight. Where are you from? How many kids do you have? What are your hobbies? Blah, blah, blah. Becoming more comfortable with Capt. X, I began to relax ... you know, settle into my usual pilot role.

> "I **SUCCUMBED** to the **PRESSURE** and did what most other new PIs **WOULD DO**. I lifted up the aircraft, flew **OVER THE BARRIER** and landed on the so-called **'TAXIWAY.'**"

The trouble started when we flew into Kirkuk for refuel. After realizing Capt. X was oblivious to the airfield layout, I took the reigns and guided us into the FARP. Capt. X had obviously

"ALWAYS DO what you know is RIGHT."

not looked over the airfield procedures for Kirkuk or even the airfield diagram for that matter. One small hiccup! That's OK; brush it off and move on with our day.

Nope!

"You are clear to back up out of the FARP," came over the radios from my standardization pilot/air mission commander in the trail aircraft.

"Great," I thought to myself. I could hover backward over the taxiway without having to do a ton of maneuvering. Suddenly, Capt. X announced, "All right, what I want you to do is fly over this cement barrier and land on the taxiway," pointing at the airfield diagram provided by the night shift, who prepared our kneeboard packets the night before.

"ALERT … ALERT … ALERT!" Red lights started flashing and alarms began screaming in my head. What is this guy thinking? One, the airfield procedures stated that we were not to overfly the cement barrier for any reason. And two, that was not a taxiway he is telling me to land on.

I explained to him in a tactful manner, "Sir, we are not supposed to overfly the barrier and I am pretty sure that is not a taxiway."

"No, we are going to fly over the barrier and land on the taxiway, just as I briefed," he said.

What could I do? I had just explained to Capt. X my interpretation of the procedures. And he wasn't taking any of my advice into consideration. Should I step on my PC's toes and request clarification from the AMC? Or should I give him professional courtesy and the benefit of the doubt?

I succumbed to the pressure and did what most other new PIs would do. I lifted up the aircraft, flew over the barrier and landed on the so-called "taxiway." Did I mention the porta-potty on the other side of the barrier flipped over, sending the dry toilet paper rolls into our rotor system? It looked like New Year's Eve, with tiny little flakes of toilet paper confetti streaming down in our rotor wash! Oh, and what else was on the other side of the barrier? A fuel bladder, which was now coated in fresh liquid "goodness" from the porta-potty!

Mortified and embarrassed, I knew my SP was sitting in the trail aircraft watching the entire situation unfold. I sunk deeper into my seat. All I could do was play out the reprimand that would follow the flight.

After a long, convoluted flight and a two-hour after-action report, I learned a few lifelong lessons. Always do what you know is right. And do whatever you need to do to maintain the safety of your crew and passengers … even if you have to throw the professional courtesy out the window.

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Leader's Corner

https://safety.army.mil

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PUSHING BEYOND THE LIMITS

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In the combat arms profession, many Soldiers engage in competition daily. Based on my experience, one of the most common competitions is the art of pushing weights. When I say pushing weight, I mean working out in the gym using free weights as a means to test one's strength and ability. No service member wants the notoriety of being the weakest individual. Since many Soldiers work out together, it's common to push each other to, and even past, our physical capabilities.

One day after duty, a group of battle buddies and I went to the gym to get our daily "pump" on. We had been working out together for quite some time and were accustomed to each other's strengths and weaknesses. When it came to dumbbells, I excelled; in fact, I was the strongest in the group. However, I still wanted to improve my strength through other exercises and equipment.

After everyone finished, I decided to hang back to lift a little more weight. My intent was to increase my strength faster than my buddies. I decided to attack the dip machine with free weights. Initially, I mounted the machine with low weight to judge my capabilities. After two sets in, I realized I was able to do a lot more weight than I predicted. A few sets of light weights snowballed into me attempting to determine my absolute limit. Before I knew it, I was lifting too much weight. Suddenly, I felt a "POP!" and nearly fell onto the floor. At first, I thought I was just sore; however, I later realized I had injured a muscle in my chest.

My injury took months to heal. I was non-mission capable, unable to work out with my buddies and lost my weightlifting progress during my recovery. I strongly recommend everyone heed the following guidance when it comes to weight lifting … take it from a guy who learned the hard way!

When lifting weights, it is best to do it in a buddy team. I also learned you cannot push yourself past your limits safely. You should always use proper lifting techniques and make sure the equipment you're using is in good condition. Fortunately, I did not cause any chronic pain that put my future as a Soldier in jeopardy.

The Mayo Clinic's website, www.mayoclinic.com, has additional weightlifting tips that will help anyone get their workout on, safely!

When weight training, do:

- **Lift an appropriate amount of weight.** Start with a weight you can lift comfortably 12 to 15 times. For most people, a single set of 12 repetitions with the proper weight can build strength just as efficiently as can three sets of the same exercise. As you get stronger, gradually increase the amount of weight.
- **Use proper form.** Learn to do each exercise correctly. The better your form, the better your results — and the less likely you are to hurt yourself. If you're unable to maintain good form, decrease the weight or the number of repetitions. Remember that proper form matters even when you pick up and replace your weights on the weight racks. If you're not sure whether you're doing a particular exercise correctly, ask a personal trainer or other fitness specialist for help.
- **Breathe.** You might

DID YOU KNOW?

According to a release from Science Daily, www.sciencedaily.com, the popularity of weight training has grown over the past decade. A new study conducted by the Center for Injury Research and Policy of the Research Institute at Nationwide Children's Hospital has found that the number of injuries from weight training has increased as well. The study found that more than 970,000 weight training-related injuries were treated in U.S. hospital emergency departments between 1990 and 2007, increasing nearly 50 percent during the 18-year study period.

"When **LIFTING WEIGHTS**, it is best to do it in a **BUDDY TEAM.**"

be tempted to hold your breath while you're lifting weights. Don't. Holding your breath can lead to dangerous increases in blood pressure. Instead, breathe out as you lift the weight and breathe in as you lower the weight.

- **Seek balance.** Work all of your major muscles — abdominals, legs, chest, back, shoulders and arms. Strengthen the opposing muscles in a balanced way, such as the front of the shoulder and the back of the shoulder.
- **Rest.** Avoid exercising the same muscles two days in a row. You might work all of your major muscle groups at a single session two or three times a week, or plan daily sessions for specific muscle groups. For example, on Monday, work your arms and shoulders; on Tuesday, work your legs and so on.

When weight training, don't:

- **Skip your warm-up.** Cold muscles are more prone to injury than warm muscles. Before you lift weights, warm up with five to 10 minutes of brisk walking or other aerobic activity.
- **Rush.** Move the weight in an unhurried, controlled fashion. Taking it slow helps you isolate the muscles you want to work and keeps you from relying on momentum to lift the weight.
- **Overdo it.** For most people, completing one set of exercises to the point of fatigue is typically enough. Additional sets may only eat up your time and contribute to overload injury.
- **Work through the pain.** If an exercise causes pain, stop. Try it again in a few days or try it with less weight.
- **Forget your shoes.** Shoes with good traction can keep you from slipping while you're lifting weights.

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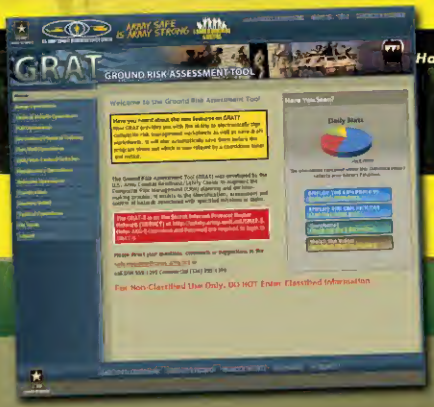
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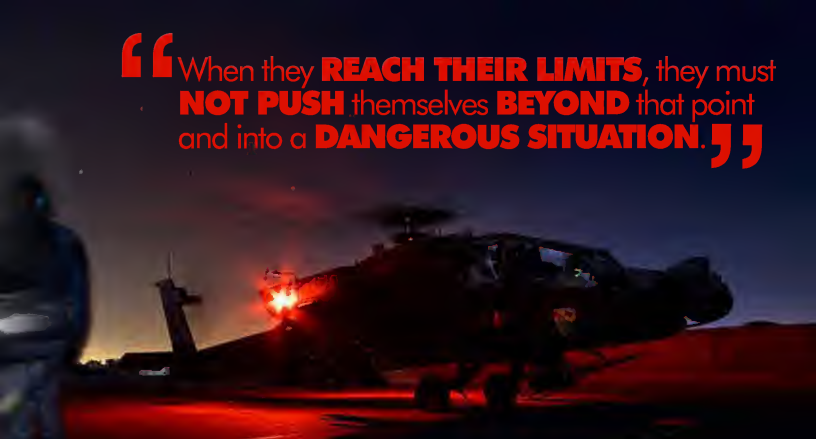
The public becomes very concerned when they read the newspaper and see headlines such as "Near mid-airs over the Atlantic," "Aircraft lands on wrong runway in Boston," "Aircraft lands at wrong airport" or "Pilot turns off both engines on takeoff." In this day and age, with all the sophisticated technology onboard to keep the pilot informed of position, altitude and emergencies, mistakes are still taking place; mistakes that are difficult to understand. The pilots are blamed for everything from complacency to incompetence. Whatever the problem, something needs to be done.

WHAT PROFESSIONALISM IS ALL ABOUT

LOREN E. DOUGHTY
Adapted from Rotor & Wing Magazine

The answer to these aviation headlines is "professionalism." Professionalism in terms of the way people conduct their jobs, their daily lives and their flying responsibilities — conducting them in a positive, intelligent and disciplined manner. Pilots should not be offended when it is said to "strive to be more professional" because, as professional pilots, we must periodically evaluate ourselves to assure 100 percent performance at all times. This is very important because not one pilot leaves their home in the morning planning to have an accident, but something happens during the course of time that gets them into a difficult position. Either the aircraft gets them into a terrible situation or they get themselves into trouble. Through professionalism and good training, a pilot can get out and stay out of potential trouble.

As professional pilots, there are



> "When they **REACH THEIR LIMITS**, they must **NOT PUSH** themselves **BEYOND** that point and into a **DANGEROUS SITUATION**."

definite steps and precautions that can be taken to keep professionally fit. The first is a strong, positive attitude. A positive attitude will change a pilot's habits, situational awareness and approach to flying performance. Just because a pilot has thousands of hours does not mark him as a professional. There is a lot more to it. A good attitude, combined with knowledge and skill are the marks of a true professional.

Professional pilots must constantly train and maintain the knowledge we already possess while reaching out and acquiring new knowledge. Pilots should constantly ask themselves if they have the knowledge and understanding of all systems in their aircraft. Do they know all the emergency procedures of the aircraft? If not, how do they expect to survive if an emergency takes place? Do pilots periodically return to the basic skills of flying? For instance, there is a basic skill of keeping one's head out of the cockpit or flying basic maneuvers upon which advance maneuvers are built. Can the pilots visualize all flight maneuvers prior to initiating them? If a pilot cannot visualize a flight maneuver or procedure, how can he perform it?

Pilots must continually work on developing and maintaining their flying skills, both visual flight rules and instrument flight rules. If a pilot plans on an IFR flight, then proficiency — not only in skill, but also in knowledge — is paramount. Pilots cannot go IFR inadvertently and survive unless they are current and proficient in IFR flying.

Professional pilots must discipline themselves to work in today's complicated aviation system. Pilots must stay abreast of the current Federal Aviation Regulations and any changes to those regulations. They must read and study the aircraft flight manual frequently. Pilots must know what their capabilities are and must discipline themselves not to exceed them. When they reach their limits, they must not push themselves beyond that point and into a dangerous situation.

As pilots, we have three common failings. First, pilots tend to be prouder of their willingness to take a chance than of their observance of caution, conservation and carefulness. Second, pilots tend to use powers of logic and reasoning to find justification for things they want to do, rather than determine what is best to do. Third, pilots will risk losses out of all proportions to possible gains if they feel that through their skill and luck they can probably avoid the loss.

If you were to sit with a pilot in his or her living room and present them with the above three failings, they would tell you they would do the safe thing. In reality, the chances are excellent they would gamble, for it is human nature. It comes back to the old conflict of knowledge versus desire. Being a pilot is a hazardous profession, but it is only as hazardous as you want to make it. Control or discipline the desires and temptations and be aware of the traps human nature has laid for you. It may save your life — and that is what professionalism is all about.

LOST

AVIATION

AH-64D

CLASS C

- The aircraft contacted the ground during a single-engine demonstration, resulting in damage to the turret assembly and main landing gear.

- The crew experienced a No. 1 engine NP exceedance during an evaluation flight. The instructor pilot assumed the controls and performed a single-engine emergency landing.

CH-47D

CLASS A

- During a night vision goggle dust landing, the aircraft landed hard. The landing gear and fuselage were damaged.

CLASS C

- A post-slingload flight inspection revealed airframe/sheet metal damage to the aircraft.

HH-60M

CLASS A

- An aircrew medic was killed when he came into contact with the operating aircraft as he was on foot for patient pick-up.

OH-58D

CLASS C

- The crew experienced a LOW ENG OIL caution during contour flight with vibrations and executed an emergency landing/running approach to a tank trail. Inspection revealed cracks in the vertical fin above the stinger mounting point and axial play in the tail rotor delta hinge spherical bearing.

TH-67A

CLASS B

- The aircraft entered a dynamic rollover condition during primary flight instruction on sod terrain.

UH-60A

CLASS C

- The aircraft touched down hard during environmental training, resulting in the stabilator striking the ground and the main rotor blade contacting the driveshaft cover.

UAS

MQ-5B

CLASS A

- The aircraft operator was unable to control flight during final approach for landing, and the unmanned aircraft crash landed in a nose-low attitude.

RQ-7B

CLASS C

- The crew experienced loss of communication link with the UA during flight. The aircraft crashed and was located in mountainous terrain.

- The crew experienced a FLAPS SERVO FAIL warning during flight training. The aircraft operator activated the recovery chute, and the UA went down on private property and sustained damage.

- The UA experienced RPM fluctuation following launch and subsequent engine failure. The recovery chute was deployed, and the UA was recovered with damage.

Editor's note: Information published in the accident briefs section is based on preliminary loss reports submitted by units and is subject to change. For more information on selected accident briefs, email safe.knowledge@conus.army.mil.

GROUND

Other

CLASS A

- A Department of the Army Civilian was ejected and killed when the government-operated vehicle he was riding in overturned in a 90-degree turn. The DAC driver of the vehicle, who was also ejected, received serious injuries.

Personnel Injury

CLASS A

- A Soldier was killed and five others hospitalized when their tent was struck by a round from a mortar team that was returning fire during enemy engagement.

CLASS B

- A Soldier's leg was medically amputated after he was struck by a round from his shotgun. The Soldier reportedly dropped the shotgun as he was unloading it, causing it to fire.

- A Soldier suffered a broken pelvis upon landing during a mass-drop parachuting exercise.

DRIVING

POV

CLASS A

- A Soldier was killed when he lost control of his pickup in a curve and overturned.

- A Soldier was ejected and killed when his pickup struck a curb, ran off the road and overturned.

- A Soldier was killed when his vehicle struck a concrete pillar.

- A Soldier was driving with another Soldier as a passenger when their vehicle went into the median, collided with trees and overturned. The passenger was killed and the driver hospitalized. Both were wearing their seat belts, and the air bags functioned properly.

POM

CLASS A

- A Soldier was riding his motorcycle across a bridge when he rear-ended an SUV. Although wearing his DOT-approved helmet, the Soldier suffered serious head injuries and was placed on life support. The Soldier had participated in a motorcycle mentorship program.

OFF-DUTY

Pedestrian

CLASS A

- A Soldier wearing dark clothing was killed when he was struck by a vehicle while crossing a major thoroughfare before dawn.

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